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ABSTRACT

This study compared high, moderate, and low procrastinators on their (1) frequency and nature of rationalizations to justify procrastination, (2) reported degree of self-regulation, and (3) grades in a web-based course with 216 performances, all with deadlines. One hundred and sixteen college students enrolled in a web-based "study skills" course completed a (1) 16-item Proscrastination Scale, used to identify them as high, moderate, or low procrastinators, (2) frequency of use questionnaire of 15 common rationalizations for procrastination, and (3) nine-item self-regulation scale. Following the course, students' grades were obtained. Because of the nature of performances, grades were far more objective than in a traditional course. On the total rationalization score, high and moderate procrastinators significantly exceeded low procrastinators, with "I'm just waiting for the best time to do it" and "I know I can pull this out at the last minute" as most discriminating. On the total self-regulation score, significant differences in the expected order were found between all three procrastinator groups. On course grade, high procrastinators were significantly lower than either low or moderate procrastinators. (Contains 17 references.) (Author/GCP)

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Academic Procrastinators: Their Rationalizations and Web-Course Performance

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Abstract

This study compared high, moderate, and low procrastinators on their (1) frequency and nature of rationalizations to justify procrastination, (2) reported degree of self-regulation, and (3) grades in a web-based course with 216 performances, all with deadlines. 116 college students (mean GPA=2.40, sd=.55), enrolled in a web-based "study skills" course, completed a (1) 16-item Procrastination Scale (Tuckman, 1990; r=0.92), used to classify them as high, moderate, or low procrastinators, (2) frequency of use questionnaire of 15 common rationalizations for procrastination (Tuckman et al., 2002), and (3) nine-item self-regulation scale (Tuckman et al., 2002). Following the course, students' grades were obtained. Because of the nature of performances, grades were far more objective than in a traditional course.

On the total *rationalization* score (and on six items), high and moderate procrastinators significantly exceeded low procrastinators ($F = 14.132$, $p < .001$), with "I'm just waiting for the best time to do it" and "I know I can pull this out at the last minute" as most discriminating. On the total *self-regulation* score (and on five items), significant differences in the expected order were found between all three procrastinator groups ($F = 54.616$, $p < .001$). On *course grade*, high procrastinators were significantly lower than either low or moderate procrastinators ($F = 4.822$, $p = .01$).

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Academic procrastination is regarded as a dispositional trait that can have particularly serious consequences for students, whose lives are characterized by frequent deadlines. Ellis and Knaus (2002) regard it as an "interactive dysfunctional and behavior avoidance process," characterized by the desire to avoid an activity, the promise to get to it later, and the use of excuse making to justify the delay and avoid blame. It is often reinforced, claim these authors, by success after last minute cramming, thus strengthening the belief in this approach as a viable strategy. Knaus (2000) proposes that procrastinators seek to exonerate themselves, thus maintaining a positive self-image and avoiding punishment, by deflecting blame through actions such as excuse making (using excuses that are often fraudulent; Ferrari et al., 1998) and rationalizing. Nevertheless, there is some evidence that procrastination is associated with poor academic performance (Wesley, 1994; Beck, Koons, and Milgram, 2000) and a source of personal stress (Tice and Baumeister, 1997) among college students, undoubtedly because of the aforementioned deadlines.

One possible source of cognitive support for procrastinating in the face of deadlines is the use of rationalizations (Tuckman, Abry, & Smith; 2002), thoughts that help justify the delay behavior in a seemingly logical way to the delayer. Sigall, Kruglanski, & Fyock (2000) refer to such thinking as "wishful," because it allows people to expect positive outcomes resulting from an essentially dysfunctional behavior, such as delaying action on a task in the face of a deadline. In this way, such thinking provides the motivation for the delay. A common version of this is the thought: "I work better under pressure," as a way of making the delay seem rational. These researchers indeed found wishful thinkers to procrastinate more than their cognitive opposites, particularly on unappealing tasks.

The first purpose of the current study was to determine whether a relationship existed between college students' proclivity toward procrastination, and the degree to which they employed rationalizations as sources of cognitive support, particularly those that reflected wishful thinking.

A conceptual approach to motivation with great currency is that of self-regulation. Self-regulation refers to the exercise of influence over one's own behavior (Bandura, 1986), or, "... self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (Zimmerman, 2000, p. 14). In other words, the purpose of self-regulation is to help oneself achieve desirable consequences, such as succeeding in school (Zimmerman, 1994), losing weight, or ceasing to smoke or drink alcohol. People self-regulate their learning by monitoring, directing and controlling their actions in order to acquire information and expertise (Paris and Paris, 2001).

Conceptually, procrastination and self-regulation would appear to be closely related, with the former reflecting a serious breakdown in the latter. Lay (1992) and Lay and Schouwenburg (1993) have found a relationship between procrastination and general self-report measures of self-control. Steel, Brothen, & Wambach (2001) found self-report procrastination to be a strong predictor of performance in a psychology course taught using the computerized personalized system of instruction (PSI). The second purpose of the current study is to determine whether the two concepts co-vary: first, based on self-reports, and second, using a behavioral measure of self-regulation – namely: performance in an academic course featuring a large number of enforced deadlines.

It was hypothesized that high, moderate, and low procrastinators would differ on the (1) frequency and nature of the rationalizations they tell themselves to justify procrastination, (2) their self-reported degree of self-regulation, and (3) their grades in a web-based course with a large number of required performances, all with deadlines. The greater the self-description as "procrastinator," the greater the predicted use of rationalizations and the smaller the predicted degree of both self-reported and actual self-regulated behavior.

Method

Ss were 116 college students at a large Midwestern, Research I university. One-third of the students were minority, slightly more than half were female, and just over 60 percent were

freshmen or sophomores. The mean grade point average for the sample was 2.40 (sd=.55), compared to a campuswide mean GPA of 2.87.

The students were enrolled in a 5-credit (quarter hours) elective, letter-graded "study skills" course that employed web-based instruction in a laboratory setting. The course met 4 ½ hours a week for 10 weeks and taught learning and motivation strategies applied to learning from lecture and text, preparing for exams, writing papers, building self-confidence and responsibility, and managing one's life and time. The course was taught in a computer classroom with regular meeting times, required attendance, live instructors, and a textbook, and included 216 learning performance activities, 90% of which were done online, and submitted electronically to a database. (Examples of these performance activities appear in the Appendix.)

A unique feature of the course was that all 216 learning performance activities had deadlines for submission and were graded. Electronic submissions were governed by a system of "windows" that made activities available for completion only during a specific period of time, after which a default grade of zero was given. Non-electronic submissions could be made-up up to one week late with an automatic grade penalty being incurred.

Independent Variable: Level of Procrastination. At the beginning of the course, all students completed the 16-item *Tuckman Procrastination Scale* (Tuckman, 1990). Items on this scale include: "I always finish important jobs with time to spare; I postpone starting in on things I don't like to do; When I have a deadline, I wait till the last minute." Students respond on a four-point scale ("That's me for sure; That's me; That's not me; That's not me for sure"). Scores can range from 16 to 64 with higher scores indicating a greater tendency to procrastinate. Validity of this measure is based on a correlation of -.54 between scale scores and a behavioral measure of self-regulation (Tuckman, 1990). A previous Cronbach alpha reliability coefficient of .90 has been reported (Tuckman, 1990). In this testing, a Cronbach alpha reliability coefficient of .92 was obtained.

Actual scores varied from 35-64 with a mean of 52.5 (sd=6.6). This represents a high level of procrastination, indeed 26% higher than the average score for a university-wide sample. Students were classified into high (57-64), moderate (50-56), and low (35-49) procrastinators on the basis of a tertile split.

Dependent Variables: Frequency of Use of Procrastination Rationalizations. During the third week of the course, students completed a questionnaire (see Table 1) listing 15 common rationalizations for procrastination, each responded to on a four-point frequency scale of "never" to "always," when asked how often they "heard each one in their head." (Tuckman, Abry, & Smith, 2002). Included in the list were: "I didn't know I was supposed to do that;" "I'm not in the mood;" "But I've always done it this way and it's hard to change." A total frequency score (possible range of 15-60) was computed (actual mean=32.1; sd=6.4) as were separate scores for each rationalization (possible range of 1-4; actual means ranging from 1.56-2.85).

Degree of Self-Regulation. Also in the third week, students completed a nine-item scale of self-regulation, developed by the researcher, that yielded an alpha reliability coefficient of .88. Items included: "I seem to have enough time to complete my work;" I organize my time;" "I make excuses when my work isn't done." Responses were made on the same four-point frequency scale as described above. A total self-regulation score was computed (possible range of 9-36).

Course Grade. At the end of the 10-week course, students' cumulative performance on the learning performance activities, on a 1,000- point scale, were converted to letter grades by their instructors. The possible letter grades and their numerical equivalents were as follows: A (4.0), A- (3.7), B+ (3.3), B (3.0), B- (2.7), C+ (2.3), C (2.0), C- (1.7). (No student completed the course with a grade lower than C-.) Because of the number of performances, grades were far more objective and criterion-referenced than in the traditional academic course.

Analysis. All dependent measures were analyzed by ANOVA with level of procrastination (high, moderate, low) as the independent variable. Post hoc analyses following significant F ratios were done using the least significant difference procedure.

Results and Discussion

On the total rationalization score (an indication of use of all 15 rationalizations), a significant F ratio of 14.132 was obtained (df=2, 113, $p<.001$). Low procrastinators reported significantly less use of rationalizations overall (mean of 28.5) than either moderate or high procrastinators (means of 32.9 and 35.1, respectively), while moderate and high procrastinators did not differ significantly from one another (see Figure 1).

Significant differences were found on six of the 15 rationalizations. Leading the way as the most discriminating rationalizations were (1) "I just can't seem to get started" (F=19.375); (2) "I'm just waiting for the best time to do it" (F=9.555); (3) "I know I can pull this out at the last minute" (F=8.347). The first one is just a typical description of procrastination, but the second and third represent wishful thinking. Again, significant differences occurred only between low procrastinators and each of the other two groups. Least discriminating were (1) "But I've always done it this way and it's hard to change" (F=0.351); (2) "I need time to think this through" (F=0.363).

For the total self-regulation score, a significant F ratio was also obtained (F=54.616, df=2/115, $p<.001$). In this case, significant differences were found between all three procrastinator groups (means of 27.3, 23.0, and 19.5 for lows, mediums, and highs respectively). Significant differences were also found on all nine individual items, in most cases between all three procrastinator groups.

A significant F ratio was found on course grade (F=4.822, df=2/109, p=.01). Both low and moderate procrastinators earned significantly higher course grades (means of 3.6 and 3.4, respectively, on a 4.0 scale) than did high procrastinators (mean of 2.9; see Figure 1). High procrastinating was definitely a liability in this kind of course with its many deadlines.

To assure that differences in course grades were not a function of academic capability, an ANOVA was run on prior cumulative grade point average. The resulting F (.025, df=2/104) was not significant (means of 2.4 for all three groups). Apparently, high procrastination is not a liability in most college courses to the same degree as it is in this course.

Results indicated that more serious procrastinators were more inclined to utilize rationalizations, less inclined to self-regulate, and perhaps consequently, earned lower grades in a highly structured, web-based course with many performances with deadlines. Procrastinators may be more successful in traditional college courses where they are more likely to avoid serious penalties for procrastinating.

The findings that procrastinators perform more poorly academically and rationalize their postponement of action, reinforces the supposition that beliefs in working better under pressure or being able to start late and still succeed are indeed rationalizations that enable procrastinating behavior to persist even in the face of failure. Ferrari (2001) found experimentally that chronic procrastinators are ineffective in regulating their performance speed and accuracy when they work under the pressure of high cognitive load and imposed time limitations.

The key to change may well be getting procrastinators to recognize the inaccuracy and dysfunctionality of their rationalizations. To accomplish this it would appear necessary to get procrastinating students to try doing their academic preparation on a more timely basis and noting the results. Tuckman (1998) found that when given frequent tests rather than homework assignments, the academic performance of procrastinators improved dramatically, so much so as to move them from the bottom to the top of their class. It still remains to be determined whether such students are able to subsequently maintain their more timely regimen of preparation in much less structured environments.

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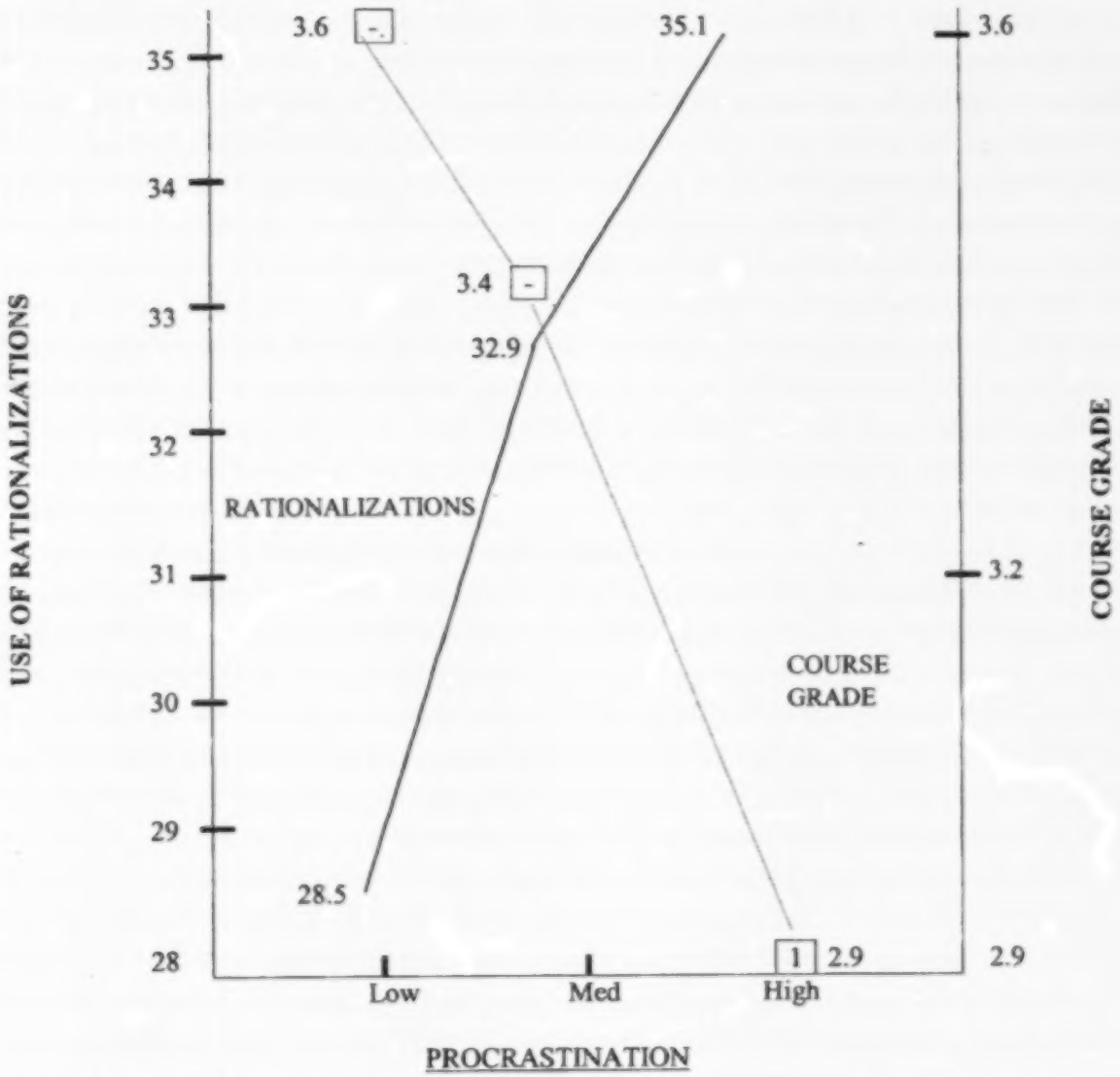
Table 1

Read over the following list of frequently heard rationalizations. For each one indicate how often you hear this rationalization in your head.

Respond to the items using the following scale:
Never (N) Sometimes (S) Frequently (F) All the time (A)

1. Ignorance - "I didn't know I was supposed to do that.	N S F A
2. Skill Deficiency - "I don't know how to do it."	N S F A
3. Apathy 1- "I really don't want to do this"	N S F A
4. Apathy 2 - "It really doesn't make any difference if I put this off."	N S F A
5. Apathy 3 - "No one really cares whether I do this or not."	N S F A
6. Apathy 4 - "I'm not in the mood."	N S F A
7. Fixed Habits 1 - " But I've always done it this way and it's hard to change."	N S F A
8. Fixed Habits 2 - "I know I can pull this out at the last minute."	N S F A
9. Fixed Habits 3 - "I work better under pressure."	N S F A
10. Inertia - "I just can't seem to get started."	N S F A
11. Frail Memory - "I just forgot."	N S F A
12. Physical Problems - "I couldn't do it; I was sick."	N S F A
13. "Appropriate" Delays 1- "I'm just waiting for the best time to do it."	N S F A
14. "Appropriate" Delays 2 - "I need time to think this through."	N S F A
15. "Appropriate" Delays 3 - "This other opportunity will never come again, so I can't pass it up."	N S F A

Figure 1. Average frequency of use of rationalizations and course grade for high, medium, and low procrastinators.



Appendix

Some Examples of the 216 Learning Performance Activities (Tuckman et al., 2002)

QUICK-PRACTICE from Managing Your Life

It's a Saturday night. You're out drinking with your friends. You've already had a few rounds, when one of your friends says it's time for another round. You realize that you've already had as much as you can handle, so you tell them you've had enough and are going home. They start trying to convince you, then start calling you names. You think, "What a sorry bunch of jerks!" and split.

Identify instances of PERSON, BEHAVIOR, and ENVIRONMENT, using the self-system, and write them in the order that indicates the sequence of events.
("Model answer" provided after submission)

APPLICATION from Overcoming Procrastination

Pick one of the rationalizations for procrastinating listed in Self-Survey 3.2, and write a short scenario that illustrates the rationalization. A scenario is a clear example of the idea in real life action. It should be at least one complete paragraph, and should include:

Who is involved (preferably you; otherwise change the names to protect the "innocent.")?

What is the situation?

What is the rationalization being used?

ASSIGNMENT from Learning From Text

Read the following article entitled Race and the Schooling of Black Americans(a new browser will open for you with the reading), and construct a Question and Answer (Q&A) Outline related to the article. Include and label all three kinds of questions: Recap (RC), Reflection (RF), and Reasoning (RS).

PORTFOLIO from Preparing For Exams

Using your book, notes, and the Q&A Outline for one of your other courses that you created for the Module 7 Portfolio, create a 5-question mock multiple-choice exam. Also, construct a CC Web Chart that covers all of the information necessary to answer each of the questions. Remember, you can predict questions first and then create a CC Web Chart, or you can create your CC Web Chart first, and then predict questions.

Next, using the same materials, create a two-question mock essay exam. Then, for each essay question, construct a Skeleton Key Diagram that will cover all of the information necessary to answer the question.

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